

PATENT SPECIFICATION

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(54) IMPROVEMENTS IN OR RELATING TO ADJUSTABLE SPANNERS

(71) We, JAMES NEILL HOLDINGS LIMITED, a British Company of Napier Street, Sheffield S11 8HB, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to adjustable spanners and is particularly concerned with the type of adjustable spanner having a fixed jaw which may be integral with a handle, and a movable jaw adapted for movement with respect to the fixed jaw.

According to the present invention an adjustable spanner comprises a fixed jaw secured to a shank, a handle extending from the shank, and a movable jaw secured to a slider engaging the shank, there being a movable member within the slider and means pivotally mounted within the slider which on pivoting urges the member into positive engagement along its length shank, whereby the sliding jaw can be locked to the shank at a desired spacing along the length of the shank.

The member within the slider to lock the slider against movement with respect to the shank may be of wedge shape having one face parallel to the corresponding face of the shank and an opposite face parallel to a corresponding inclined face on the slider pivoting of the means mounted within the slider causing relative movement of the member with respect to the slider and the shank to cause the member to lock the slider in position by a wedging action. Thus, there may be a simple trigger having a projection engaging the wedge shaped member whereby on activation of the trigger the wedge shaped member can be moved relative to the slider and the shank to lock or unlock the slider from the shank. With such construction the spanner is universally adjustable and can therefore fit any size of nut within the range for which the tool is intended, whichever of

the standard forms of screw thread are employed on the nut.

To provide a more positive form of locking of the slider to the shank, the co-operating faces of the member and the shank may be provided with a series of teeth, pivoting of the means mounted within the slider causing lateral movement of the member towards the shank to cause engagement of the teeth. Again there may be a trigger having a head adapted to engage the member and, activation of the trigger urging the member laterally into engagement with the teeth on the shank. In this position, the movable jaw is positively locked against movement with respect to the fixed jaw. To ensure positive release of the slider a spring is provided between the shank and the member adapted to engage the shank which spring is compressed as the member is brought into engagement with the shank. The spring may be provided within a recess in the toothed face of the member adjacent the shank. On movement of the trigger to release the member, the spring urges that member away from the shank thereby effecting dis-engagement between the teeth.

With the latter construction, the tooth spacing on the shank and on the member within the slider is formed to suit the across flats size of the nuts for which the spanner is intended. Thus, for example, for metric threaded nuts with metric flats dimensions the tooth spacing would be in millimetres.

For convenience, the handle secured to the shank may be offset with respect to the shank and may be provided with a plastics hand-grip.

One embodiment of the invention will now be described with reference to the accompanying drawings in which:—

Figure 1 is a front perspective view of an adjustable spanner in accordance with the invention;

Figure 2 is a section generally on the line 2—2 of Figure 1;

Figure 3 is a front elevation of the spanner of Figure 1;

And Figure 4 is a rear elevation of the spanner of Figure 1; and

5 Figure 5 is a section on the line 5—5 of Figure 1.

10 In the drawings an adjustable spanner 1 has a fixed jaw 2 secured to a shank 3, the shank extending to an offset handle 4 having a plastics hand-grip 5. A movable jaw 6 is secured to a slider 7 having a generally U-shaped configuration (Figure 5) which embraces the shank 3. Also within the slider is a member 8 capable of effecting relative transverse movement with respect to the shank, the adjacent faces of the member 8 and the shank 3 being provided with teeth 10,9 respectively. The member 8 has a recess 11 in which is fitted a spring 12 to urge the member 8 away from the shank 3, and has projections 13 projecting into an internal recess 14 in the movable jaw 2 to prevent relative vertical movement between the member 8 and the movable jaw 2.

25 The face of the member 8 opposite that bearing the teeth 10 is provided with a depression in which is engaged a head 16 of a trigger 17, the opposite side of the head to that engaging the depression bearing against the inside face 18 of the recess 14. The trigger 17 extends beyond the slider 7 through a gap 19 at the lower end of the movable jaw 6.

35 Thus, with the trigger urged away from the shank 3, pressure is released from the member 8 and the spring 12 urges the member away from the shank 3. This brings about disengagement of the teeth 9, 10 and allows the movable jaw to be moved upwardly or downwardly with respect to the shank until it has reached the desired position when the spacing between corresponding faces on the fixed and movable jaws has been reached. With the trigger then pulled towards the shank pressure is exercised on the member 8 in excess of that provided by the spring 12 so that the member 8 is urged against the shank 3 to bring about re-engagement of the teeth 9,10. In this condition the slider and thus the movable jaw is locked against movement relative to the shank and thus to the fixed jaw 2 when the spanner can engage a nut for the purpose of tightening or untightening that nut.

55 The spacing of the teeth on the shank 3 and member 8 are formed to suit the across flats size of the nuts for which the spanner is

intended, e.g. for metric sizes of nuts the teeth spacing would be in millimetres.

WHAT WE CLAIM IS:—

1. An adjustable spanner comprising a fixed jaw secured to a shank, a handle extending from the shank, and a movable jaw secured to a slider engaging the shank, there being a movable member within the slider and means pivotally mounted within the slider which on pivoting urges the member into positive engagement along its length with the shank, whereby the sliding jaw can be locked to the shank at a desired spacing along the length of the shank.

2. An adjustable spanner as in Claim 1, wherein the member within the slider is of wedge shape, with one face parallel to the corresponding face of the shank, and an opposite face parallel to a corresponding inclined face on the slider, pivoting of the means mounted within the slider causing relative movement of the member with respect to the slider and the shank to cause the member to lock the slider in position by a wedging action.

3. An adjustable spanner as in Claim 1, wherein the member has a face parallel to the corresponding face of the shank, both faces being provided with teeth, pivoting of the means mounted within the slider causing lateral movement of the member towards the shank to cause engagement of the teeth.

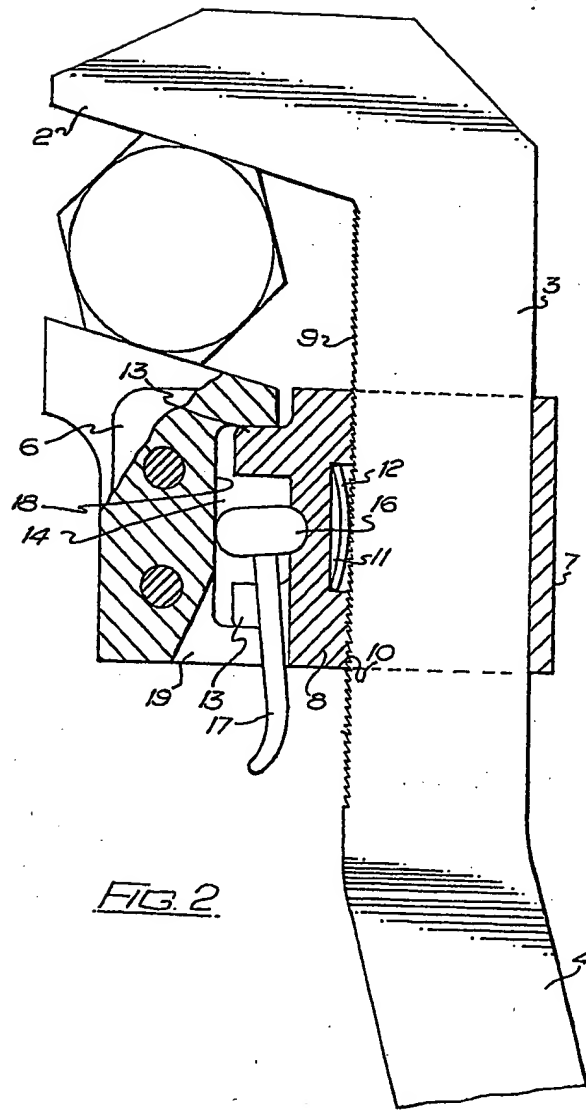
4. An adjustable spanner as in any of Claims 1 to 3, wherein the means mounted within the slider comprises a trigger extending to a projection or head, which projection or head engages with the movable member.

5. An adjustable spanner as in Claim 1 or Claims 3 or 4, when appended to Claim 1, wherein a spring is provided between the shank and the member adapted to engage the shank which spring is compressed as the member is brought into engagement with the shank.

6. An adjustable spanner as in Claim 5, wherein the spring is provided within a recess in the face of the member adjacent the shank.

7. An adjustable spanner substantially as hereinbefore described with reference to the accompanying drawings.

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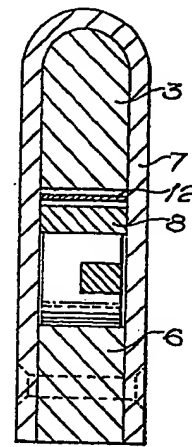
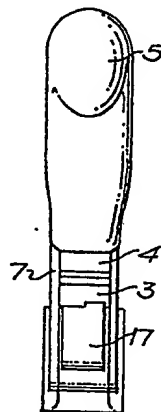
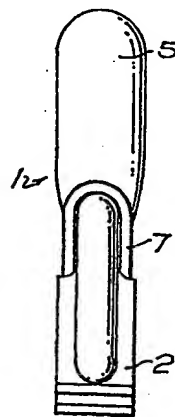
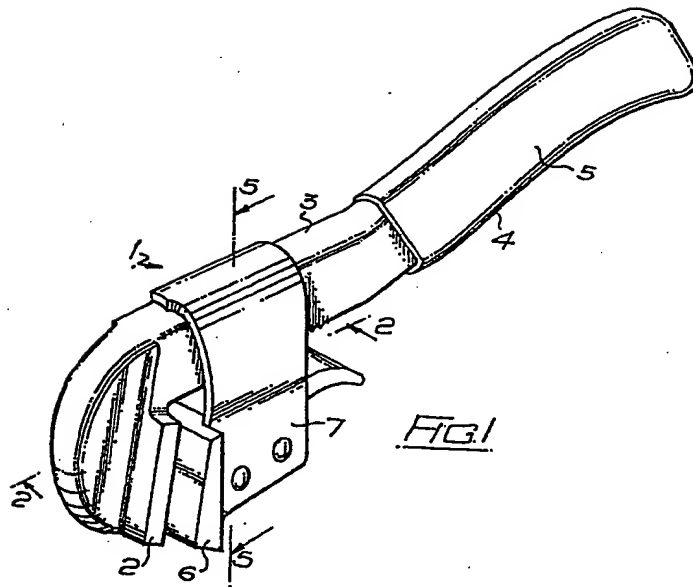


FIG. 3

FIG. 4

FIG. 5